Summary Report:
Oklahoma Water Supply Reliability and Management Challenge

September 17, 2014

September 30, 2014

Sponsors:

Bureau of Reclamation

Oklahoma Water Resources Board

Challenge Consultant:
AMEC Environment & Infrastructure, Inc.
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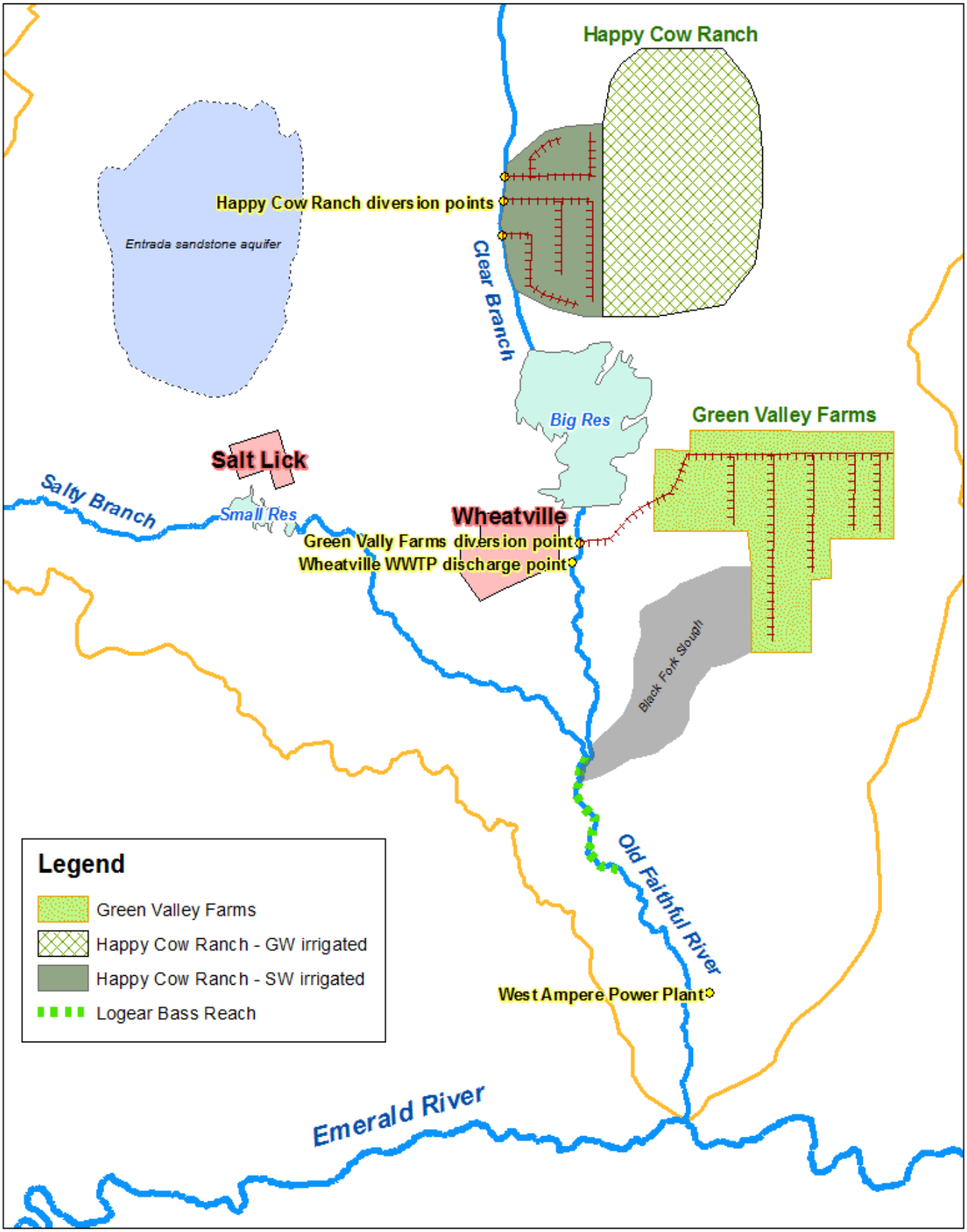

Happy Cow Ranch
Happy Cow Ranch diversion points
Entrada sandstone aquifer
Clear Branch
Big Res
Green Valley Farms
Salt Lick
Salty Branch
Small Res
Wheatville
Green Vally Farms diversion point
Wheatville WWTP discharge point
Black Fork Slough
Old Faithful River
West Ampere Power Plant
Emerald River
Legend
Green Valley Farms
Happy Cow Ranch - GW irrigated
Happy Cow Ranch - SW irrigated
Logear Bass Reach
0
3
6
12 Miles
N
W
E

Why do it?

- Collaboration
- Agriculture/Industry
  - ODAFF
  - ODTR
  - ODTR
  - Lake Texoma Association
  - Chickasaw National Recreation Area
- Water Supply Interests
  - Oklahoma Rural Water Assoc.
  - City of Norman
  - City of Lawton
  - Osage RWD #15
  - Oklahoma City Water Utilities
  - Central OK Master Conservancy District
- Energy Interest
  - Oklahoma General Electric
  - Public Service of Oklahoma
  - Devon Energy
  - Continental Resources
  - Ward Petroleum
- Conservation Groups
  - Oklahoma Association of Conservation Districts
  - Nature Conservancy
  - Oklahomans for Responsible Water Policy
  - Oklahoma Department of Wildlife Conservation
  - Oklahoma Department of Wildlife Conservation
  - US Fish and Wildlife
  - Washita National Wildlife Refuge

Why do it?

- Seeing other views- without specificity
    - Seeing other views- without specificity

– Lower stakes discussion
    – Hypothetical Scenario

- Educate Stakeholders
    – Why they think the way they think
    - Enlighten decision makers

Complaints

- Referees

- I recommend doing it with
  - I recommend doing it with legislators exclusively
    - They want to be included in water debate
    - Lower stakes
    - Play a role of stakeholder not legislator
    - No penalty for opinions

Drought.ok.gov

- Water Use Permitting
- Financial Assistance
- Well Drilling
- Water Quality Standards
- Monitoring & Assessment
- Groundwater Studies
- Surface Water Studies
- Dam Safety
- Floodplain Management
- Drought Monitoring
- Data & Maps

Oklahoma Drought Management Plan

OKLAHOMA Drought Tool

Oklahoma Drought Tool

OK Water Supply Reliability and Management Challenge

Drought Monitoring

A number of valuable resources to monitor drought conditions in Oklahoma are available from state and federal organizations and agencies.

The OWRB has served as chair of the Water Availability and Outlook Committee of the state's Drought Management Team since 1996 and regularly publishes the *Oklahoma Water Resources Bulletin*, the state's official drought monitoring publication, which includes current information on reservoir storage, streamflow conditions, crop conditions, weather conditions, and related factors.

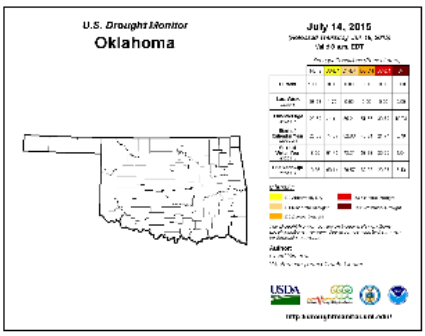
Oklahomans affected by drought

Oklahoma Water Resources Bulletin

WATER FOR 2060
EFFICIENCY • CONSERVATION • RECYCLING • REUSE

Drought Monitor

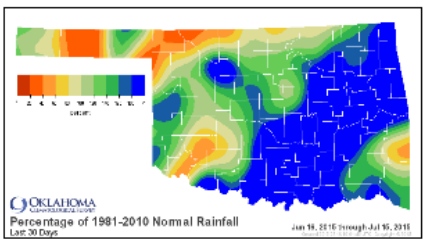
Drought Monitor for Oklahoma



U.S. Drought Monitor
(National Drought Mitigation Center)

Precipitation & Climate

Percentage of Normal Rainfall (Last 30 Days)



Current Drought & Wildfire Conditions *(OK Climatological Survey)*

Oklahoma Mesonet [*Mesonet Ticker*]

Statewide Precipitation (1895-2013)

Reservoir Storage

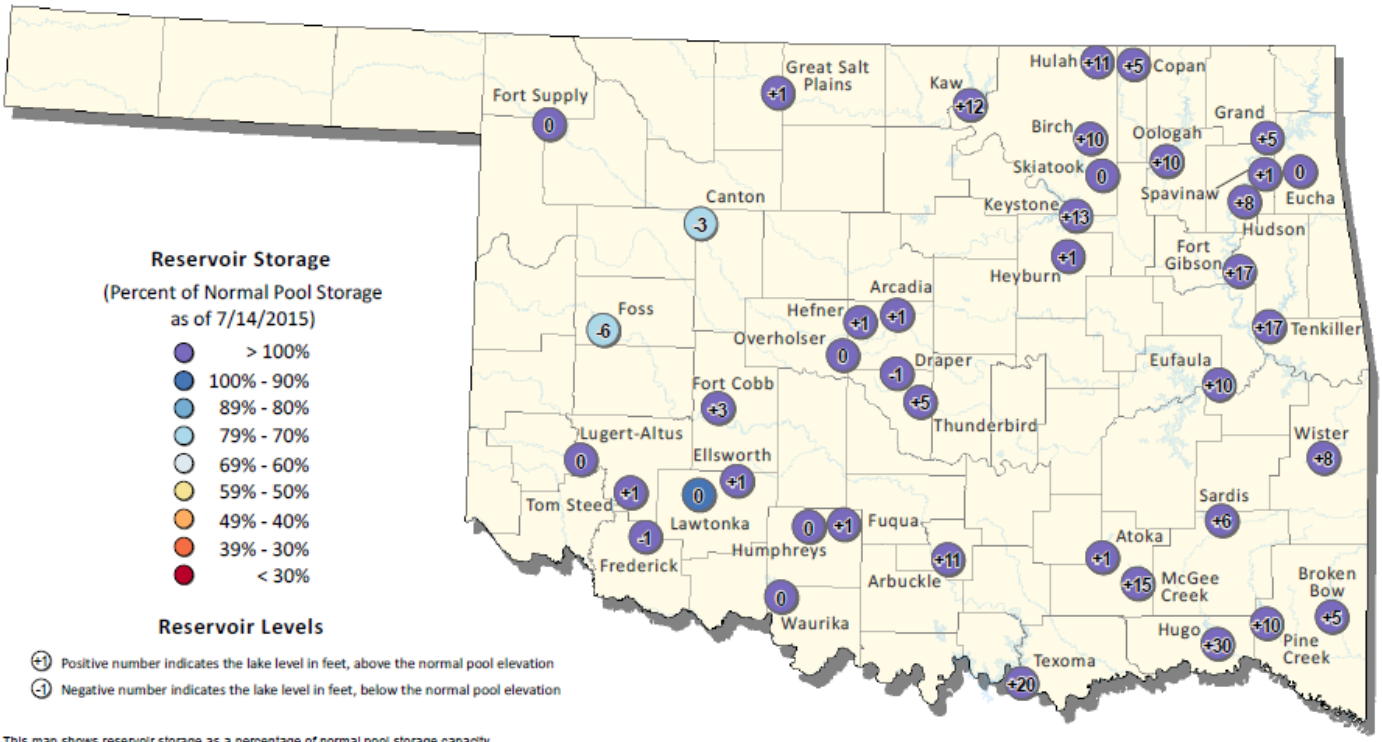
OWRB Lake Level and Streamflow Conditions Map & Data Viewer

Streamflow Conditions

USGS Departure from Normal Streamflow

Oklahoma Surface Water Resources

Reservoir Levels and Storage as of 7/14/2015



This map shows reservoir storage as a percentage of normal pool storage capacity.
The source information was collected from real-time lake gages monitored by the U.S. Army Corps of Engineers (http://www.swt-wc.usace.army.mil/old_resvrept.htm), and the U.S. Geological Survey (http://waterdata.usgs.gov/ok/nwis/current/?type=lake&group_key=basin_cd)
For more information please visit the OWRB's website at:
(http://www.owrb.ok.gov)

OWRB
WATER RESOURCES BOARD
the water agency

Lake levels statewide

Name	Date	Flood Pool Elevation (ft)	Normal Pool Elevation (ft)	Current Elevation (ft)	Lake Level Above or Below Normal Pool Elevation (ft)	Normal Pool Capacity (ac-ft)	Current Capacity (ac-ft)	Current Capacity (%)
Arbuckle	7/14/2015	885.3	872.0	882.84	10.84	62,570	91,496	146%
Arcadia	7/14/2015	1,029.5	1,006.0	1,007.47	1.47	29,206	32,009	110%
Atoka	7/14/2015		590.0	590.93	0.93	123,650	129,000	104%
Birch	7/14/2015	774.0	750.5	760.74	10.24	14,893	28,338	190%
Broken Bow	7/14/2015	627.5	602.5	607.56	5.06	457,749	531,091	116%
Canton	7/14/2015	1,638.0	1,615.4	1,611.95	-3.45	95,845	70,710	74%
Copan	7/14/2015	732.0	710.0	715.43	5.43	33,885	62,184	184%
Draper	7/14/2015		1,191.0	1,189.99	-1.01	87,296	96,410	110%
Ellsworth	7/14/2015		1,232.5	1,233.40	0.90	60,000	64,160	107%
Eucha	7/14/2015		778.0	778.40	0.40	74,456	77,100	104%
Eufaula	7/14/2015	597.0	585.0	594.72	9.72	1,346,325	2,402,006	178%
Fort Cobb	7/14/2015	1,354.8	1,342.0	1,344.69	2.69	72,573	83,459	115%
Fort Gibson	7/14/2015	582.0	554.0	571.27	17.27	53,900	510,467	947%
Fort Supply	7/14/2015	2,028.0	2,004.0	2,004.34	0.34	12,221	12,899	106%
Foss	7/14/2015	1,662.2	1,642.0	1,636.31	-5.69	160,146	124,659	78%
Frederick	7/14/2015		1,200.0	1,199.19	-0.81	9,933	10,880	110%
Fuqua	7/14/2015		1,076.0	1,077.14	1.14	21,100	21,660	103%
Grand	7/14/2015	755.0	744.0	748.56	4.56	412,582	614,244	149%
Great Salt Plains	7/14/2015	1,138.5	1,125.0	1,125.87	0.87	25,916	34,968	135%
Hefner	7/14/2015		1,199.0	1,200.32	1.32	69,893	79,010	113%
Heyburn	7/14/2015	784.0	761.5	762.15	0.65	3,020	3,479	115%

Corp of Engineers, USGS